

The importance of functional traits in community assembly after hay spread on top soil removal sites



Site 1



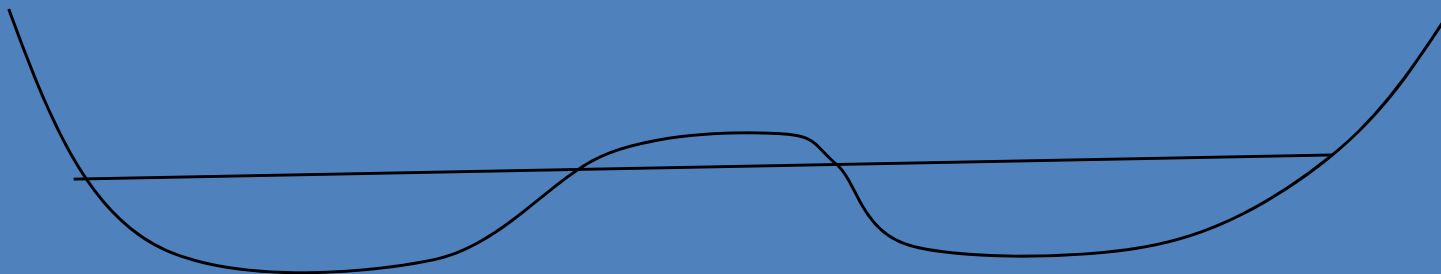
Site 2



Site 3



Profile



KATASTER

ORTO

RASTER

TOPO

X: 462432 Y: 662304
N: 52°0'15.6" E: 21°21'55.08"

0 400 800m

Polygonum bistorta



Dactylorhiza incarnata



Dactylorhiza majalis



Eriophorum angustifolium



Methodology

- Inventory of the donor sites
- Hay spread
- Analysis of seed content in hay
- Collecting data on functional traits of species in hay from literature and greenhouse experiments.
- Measuring vegetation changes in permanent plot for 2-3 years
(A parallel study is analyzing the abiotic changes in the environment.)

The importance of functional traits in restoration

- Functional components of diversity are more consistently associated with the rates and magnitudes of ecosystem processes than are species number (Diaz and Cabido 2001).
- Pywell 2003: among forbs
colonization ability → competitive ability

Some traits has to be measured

- Germination rate
- Response to wetness and light regime
- Seedling relative growth rate
- Specific leaf area
- Leaf weight ratio
- Growth rate wet/dry condition

Hypothesis

- Gradient of anoxia affects species distribution during early assembly stage.
- Tolerance of anoxia is of major importance for distribution, so species not tolerant to anoxia will be filtered out from the wet sites.
- Anoxia facilitates establishments of all species by lowering competition (slower growth).
- Traits related to germination and establishment are of major importance.
- Species related to competition are of major importance coexistence in the pioneer community.
- Species coexistence is neither affected by traits related to establishment nor competition and anoxia has no effect on species distribution.

Anoxia present vs anoxia absent

Anoxia present



Anoxia absent



What I hope to bring back from this course

- What size should the permanent plot be to include community effects?
- Lessons from earlier studies
- A little insight to multivariate statistics.

Thank you for your attention

